Virginia Western Community College
ITE 140
Spreadsheeting for Business

Course Description

Provides a working knowledge of a commercial spreadsheet package to include design and development of a variety of worksheets, preparing graphs, working with database queries, macro writing, menu techniques, and decision analysis tools.

Semester Credits: 3 Lecture Hours: 3 Lab/Clinical/Internship Hours: 0

General Purpose

This course is designed to provide students with a working knowledge of a major spreadsheet program. Emphasis is on the functional rather than the technical approach to understanding, using, and managing electronic spreadsheets for business analysis and systems. Students will prepare for and complete the Microsoft Office 365 Excel Specialist exam.

Course Materials

Required Software: Microsoft Office 365 ProPlus. Virginia Western offers **free software**. Please go to the following Virginia Western website to download Microsoft Office 365 ProPlus if you need it:

http://virginiawestern.edu/iet-services/student-tutorials-training/microsoft-office-365-proplus-for-students/. You will then click on http://office.vccs.edu/. The login will be your full MyVWCC e-mail address (e.g. student123@email.vccs.edu) and your password is your MyVWCC password.

Note: Access to the Internet and a Windows-based computer is required. Chromebooks and Apple MacBooks are not compatible with the software required in these courses. AST/ITE courses are required in all Business and Professional Services programs and ITE 152 is a required course in almost all Virginia Western transfer programs.

Required eTextbook: Online eTextbook and Mindtap with SAM is **purchased at the time of registration for the ITE 140 Class, unless student opts-out**. Students will access MindTap in Canvas; **this will include** the Online eTextbook and MindTap/SAM. We will use MindTap/SAM for assignments.

- **Online Book and eResources -** *CengageMindTap for Campbell/Carey/Shaffer/Shellman's The New Perspectives Collection, Microsoft® 365® & Office®, 1 term Instant Access Card*
- **IAC MindTap ISBN: 9780357671993**
- **PRICE: Purchased at the time of course registration**

Optional Loose Leaf Copy: If you would like a physical copy of the eTextbook, you may purchase a loose leaf copy at VWCC's Bookstore. This does NOT replace the MindTap/SAM component required for this course.

Recommended Miscellaneous Items: Folder and a USB (for in person courses)

Course Objectives

At the completion of this course, the student should be able to:

- Civic Engagement
  - Communicate information legally and ethically using a variety of channels directed at a range of audiences.
- Critical Thinking
  - Demonstrate the importance of decision-based analysis tools within spreadsheets.
  - Demonstrate the ability to make data driven decisions based on a variety of frameworks.
  - Demonstrate the ability to forecast future trends with scenario tools.
- Written Communication
  - Demonstrate competency to create charts and spreadsheets to present data.
  - Demonstrate the ability to format charts and spreadsheets to enhance usability and data driven decisions.
  - Apply spreadsheet design principles to worksheets, tables, and charts.
- Quantitative Literacy
  - Demonstrate the creation and design of spreadsheets.
  - Create functions and formulas within spreadsheets.
  - Create macros as a time-effective way to prepare and maintain spreadsheets.
- Professional Readiness
  - Recognize the importance of spreadsheets and data analysis in business systems.
  - Demonstrate the use of spreadsheets in business systems.
  - Apply data analysis tools in decision making for business systems
- Scientific Literacy
  - Demonstrate the use of scientific and/or mathematical formulas to have a better understanding how a spreadsheet can assist with decision making for business systems.

Note: Updates to the course will be reflected in the course outline and syllabus as required.

Topical Description

1. Module 1 – Creating a Worksheet and a report.
2. Module 2 – Formatting workbook text and data.
3. Module 3 – Performing calculations with functions and formulas.
4. Module 4 Analyzing and Charting Financial Data.
5. Module 5 – Working with Excel Tables, Pivot Tables, and PivotCharts.
6. Module 6 – Working with Multiple Worksheets and Workbooks.
7. Module 7 – Developing an Excel Application.
8. Module 8 –Advanced functions
9. Module 9 – Exploring Financial Tools and Functions.
10. Module 12 – Collaborating on a Shared Workbook.
11. Appendix C – Collaborating with Your Team

Major Topics to be Included

- Designate and Work with Ranges
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Select cells, images, and charts.
        - Perform move, copy, and paste operations.
        - Perform spell check.
        - Find and Replace content and formats.
        - Insert special characters and symbols.
        - Navigate through a data range.
        - Print a data range.
        - Create range names; create formulas using range names.
- Apply Functions and Formulas
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Create formulas using the SUMIF, COUNTIF, MATCH and INDEX functions
        - Move and copy functions and formulas.
        - Using operator precedence in formulas.
        - Demonstrate the differences of relative, absolute, and mixed cell references.
        - Demonstrate the use of math and statistical functions.
        - Demonstrate the use of logical and financial functions such as PMT, FV, and PV.
        - Demonstrate the use of text functions.
        - Demonstrate the use of nested functions such as IF.
        - Validate data.
        - Audit worksheet formulas.
- Format Spreadsheets, including Conditional Formatting
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Change fonts and page setup.
        - Demonstrate the use of AutoFill, AutoFormat and series.
        - Format columns and rows.
        - Merge cells and work with cell alignment.
        - Apply borders and shading.

        - Add headers and footers.
        - Apply conditional formatting.
- Use Graphics to enhance the Visual Appeal of Spreadsheets
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Insert and format Clip Art.
        - Insert and format Pictures.
        - Insert and format SmartArt.
        - Insert and format WordArt.
        - Insert and format Shapes.
- File Operations
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Save a worksheet using the default type or different format.
        - Demonstrate the use of page setup features to change settings.
        - Create and delete manual and automatic page breaks.
        - Preview and print or publish a worksheet.
- Charts
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Analyze worksheet data to apply appropriate chart type.
        - Create charts.
        - Edit chart data and objects.
        - Move and copy charts.
- Multiple Worksheets and Workbooks
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Rename and rearrange worksheet tabs.
        - Move and delete worksheets.
        - Group and ungroup worksheets.
        - Move and copy worksheet groups.
        - Manage the workspace.
        - Link multiple worksheets and workbooks.

        - Create 2-D and 3-D references.

- Spreadsheets as a Database, Ranges, Lists, and Tables
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Apply proper design of a spreadsheet database.
        - Define data types.
        - Manipulate columns of data.
        - Apply data validation features within a spreadsheet database.
        - Find and eliminate duplicate records.
        - Sort a range/list/table.
        - Apply Auto filter to a range/list/table.
        - Apply an Advanced filter to a range/list/table.
        - Use AutoFilter to select data based on content and format.
        - Apply subtotals to a list of data.
        - Create custom views.
- PivotTables and PivotCharts
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Create and manipulate PivotTables.
        - Create and manipulate ting PivotCharts.
        - Apply Trendlines to a PivotChart.
        - Insert Slicers.
- What-If Analysis
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Perform a What-If Analysis using Goal Seek.
        - Find the optimal solution for a complex problem using Solver.
        - Analyze data involving multiple scenarios using the Scenario Manager.
        - Create Summary Reports and Scenario PivotTable using the Scenario Manager.
        - Create One Variable and Two Variable Data Tables.
        - Forecast future trends.
        - Analyze variances.

        - Demonstrate data driven decisions based on a variety of frameworks.
- Collaboration
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Protect worksheets and workbooks.
        - Share workbooks.
        - Demonstrate collaboration using tracking changes and adding comments.
        - Create and use Templates.
        - Upload a workbook to cloud storage.
- Macros and Visual Basic for Applications
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Record and execute a macro.
        - Identify and print the VBA code for a macro.
        - Apply appropriate security levels within Excel to control macro execution.
        - Customize the Quick Access Toolbar with a Macro button.
        - Add Form Controls and ActiveX Controls.
        - Edit properties of Form Controls and ActiveX Controls.
- Interchange Data with other Application Programs
    - Specific Student Content Learning Outcomes for Topic/Unit. The student will be able to . . .
        - Demonstrate object linking and embedding to share data between worksheets and files.
        - Create and edit Hyperlinks.
        - Merge data with other documents.

ITE 140 Tentative 7-Week Course Outline	
Note: Part of this course will be independent study and part will be delivered in a flipped classroom format via classroom lecture and lab.	
Classroom Lecture & Assignments	
Week 1	Syllabus/Required Orientation Assignment/Access MindTap - SAM Account Read Excel Module 1: Getting Started with Excel SAM Assignments: Excel Module 1 SAM Training & Project 1a Read Excel Module 2: Formatting Workbook Text and Data SAM Assignments: Excel Module 2 SAM Training
Week 2	SAM Assignments: Excel Module 2 Project 1a Read Excel Module 3: Performing Calculations with Formulas and Functions SAM Assignments: Excel Module 3 SAM Training & Project 1a Read Excel Module 4: Analyzing and Charting Financial Data SAM Assignments: Excel Module 4 SAM Training
Week 3	SAM Assignments: Excel Module 4 Project 1a Excel Modules 1-4 Test Training and Test Read Excel Module 5: Generating Reports from Multiple Worksheets and Workbooks SAM Assignments: Excel Module 5 SAM Training & Project 1a Read Excel Module 6: Managing Data with Data Tools SAM Assignments: Excel Module 6 SAM Training

Week 4	SAM Assignments: Excel Module 6 Project 1a Read Excel Module 7: Summarizing Data with PivotTables SAM Assignments: Excel Module 7 SAM Training & Project 1a Read Excel Module 8: Performing What-If-Analyses SAM Assignments: Excel Module 8 SAM Training
Week 5	Excel Modules 5-9, and 12 Test Training and Test SAM Assignments: Excel Module 8 Project 1a Read Excel Module 9: Exploring Financial Tools and Functions SAM Assignments: Excel Module 9 SAM Training & Project 1a Read Excel Module 12: Developing an Excel Application SAM Assignments: Excel Module 12 SAM Training
Week 6	SAM Assignments: Excel Module 12 Project 1a Read Excel Appendix C: Collaborating with Your Team Appendix C Assignment - TBD
Week 7	GMetrix Assignments - prepare for MOS exam in the Final Exam Week
Final Exam Week	Office 365 Excel MOS exam MOS Retakes by instructor approval and if eligible Optional 365 Excel Expert MOS Exam by instructor approval and if eligible

Notes to Instructors

- Instructors should prepare tests to assess the students on all modules of content. Additionally, there will be a Microsoft Office Specialist (MOS) Certification Review using Gmetrix/CertPrep, and the Microsoft Office 365 Excel Specialist (MOS) Exam given during the Final Exam Week.
- If students pass this exam, instructors may offer them an opportunity to take the 365 Excel Expert exam as an **optional credential** to earn without grade penalty. Instructors should require students to complete and pass at least 2 Excel Expert practice exams in Testing mode in Gmetrix as eligibility for the Excel Expert exam.

- Course handouts may include:
  - Instructions for Office 365 ProPlus Download
  - CertPrep (formally called Gmetrix) instructions and access code
  - MOS 365 Excel Exam Objectives
  - MOS 365 Excel Exam Retake Policy

- Use MindTap/SAM for reading, practice, projects, and assessments
- Use CertPrep/Gmetrix for practice
- Students must use the same Office product in which they use to practice in CertPrep/GMetrix. Ex: If the student is practicing in these platforms in Office 365, Office 365 must be locally installed (not cloud-based) on the Windows computer.
- The above is also true for MOS testing. The only exception is when using Certiport's remote exams, Exams From Home (EFH), as the remote exams are delivered by Certiport's virtual machines.

ADA Statement (PDF)

Title IX Statement (PDF)